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A BI-ANNUAL E-NEWSLETTER OF THE DEPARTMENT OF MECHANICAL & INDUSTRIAL ENGINEERING,
MANIPAL INSTITUTE OF TECHNOLOGY, MANIPAL ACADEMY OF HIGHER EDUCATION, MANIPAL

Vision

Excellence in Mechanical and Industrial Engineering Education through Research, Innovation and Teamwork.

Mission

Educate students professionally to face societal challenges by providing a healthy learning environment grounded well in the principles of Mechanical and Industrial Engineering, Research, Creativity and Teamwork.

MESSAGE FROM HEAD OF THE DEPARTMENT



I am delighted to present to you the current issue of 'Newslinks,' showcasing the important happenings of the Dept. of Mechanical & Industrial Engg. in the second half of 2023.

During this period, we had successfully organized the first ever hybrid mode International Conference, "Recent Advances in Science and Engineering" (RAISE-2023), jointly in association with School of Engineering and IT, MAHE Dubai in Dubai campus. The conference witnessed several quality presentations in contemporary areas which subsequently led to publications in many reputed Scopus indexed Journals. We had also partnered with Dept. of Mathematics & Dept. of Aeronautical & Automobile Engg. in organizing a workshop on Computational Methods for Solving Engineering Problems (CMSEP-2023), and with Federation University, Australia, Asset Management Council, Australia & Asset Management Society, India in organizing the 4th edition of "International Conference on Maintenance and Intelligent Asset Management" (ICMIAM-2023) at Federation University, Australia under the leadership of Dr. Raghuvir Pai B.

I am delighted to inform that we had organized the first ever reunion of the Post Graduate Alumni of the department, which facilitated the prospects of alumni involvement in curriculum development, collaborative research, and various other activities of the department. I am also happy to note that faculty members of the department are active on the publications front, in applying for grants and in filing patents in tune with the vision and mission of MIT. My sincere appreciation and gratitude to all the faculty members, students and alumni and look forward to their continual support in all our future endeavours.

Dr Sathya Shankara Sharma

DEPARTMENT NEWS

1. *UNNATI (Work Integrated Learning Program): Diploma in Mechanical Engineering for Employees of CIPLA Ltd.*



1st Batch of students with MIT faculty & CIPLA officials

A new approach for promoting higher education for working professionals, UNNATI, Work Integrated Learning Program (WILP) was inaugurated on 27 March 2023 under the initiative of Dept. of Mechanical & Industrial Engg. enabling CIPLA employees to pursue "Diploma in Mechanical Engineering" through MAHE Manipal. It marked the culmination of a yearlong effort by both the teams from MIT Manipal and CIPLA. The diploma will be conferred upon employees upon the successful completion of six semesters, which includes a combination of onsite, online, and student directed learning. Weekend classes have been structured to facilitate the completion of the entire course in three and a half years. The first batch comprises thirty-eight students from CIPLA facility at, Goa. Faculty members from various departments of MIT will facilitate delivery of courses and laboratory sessions.

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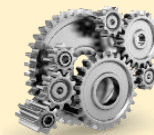
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DEPARTMENT NEWS

The orientation program of the first batch was held on **28th July 2023** at the GOA facility of CIPLA. **Dr. Somashekhar Bhat**, Joint Director, MIT was the Chief Guest. He highlighted the journey of Manipal and the untiring efforts of its founder, Padmashree awardee Dr. T.M.A. Pai in establishing an educational hub at Manipal. **Mr. Vinay Bassi**, Senior VP (HR) at CIPLA, encouraged CIPLA employees to seize the opportunity to upskill themselves, emphasizing the importance of seeking new knowledge and communication skills by actively participating in the learning process.

Cdr. (Dr.) Anil Rana, the Director of MIT, who joined the programme online from Manipal welcomed this initiative as a mutually beneficial collaboration between MAHE and CIPLA. He highlighted the substantial efforts put forth by various departments of MIT Manipal in developing the curriculum in consultation with CIPLA. **Mr. Pankaj Shitole**, the site head at CIPLA Goa, reiterated the sentiments expressed by **Mr. Vinay Bassi** and encouraged the newly enrolled students to make the most of the program to enhance their learning and skills. **Dr. Giridhar Kini**, the Registrar of MAHE commended both MIT Manipal and CIPLA for designing a program that would empower young individuals to gain knowledge and upgrade their skills. **Mr. Sachin Kaistha**, Lead COE, Operations and Strategic Projects at CIPLA who was closely involved in designing of the curriculum, expressed his satisfaction on the successful fruition of the initiative.

During the orientation program, **Dr. S S Sharma**, Head, Dept. of Mechanical and Industrial Engg., welcomed the gathering, while **Dr. Raghuvir Pai B**, provided insights into the diploma program. **Dr. Deepak D** from the Department of Mechatronics, highlighted the academic rules and regulations, **Dr. Ganesha A** elaborated on the technology platform used for delivering online course components, **Dr. Nitish Kumar** and **Dr. Girish H** coordinated the orientation program at the CIPLA campus. **Dr. Rajesh Nayak** and **Dr. Pawan Hiremath** handled the coordination from the MIT Manipal campus and **Mr. Anshuman Bhatta** facilitated coordination at the CIPLA, Goa facility, assisting in organizing the orientation program. **Dr. Nitesh Kumar** from the Dept. of Mechanical and Industrial Engineering was the Master of Ceremonies for the event.

The Diploma in Mechanical Engineering is a collaborative effort between various departments of MIT, with the Department of Mechanical and Industrial Engineering taking the lead. The following departments are contributing to the success of the programme: Biotechnology, Computer Science and Engineering, Chemical, Chemistry, Humanities and Management, Instrumentation and Control, Mathematics, Mechatronics and Physics. The classes for the programme commenced on 29th July 2023.

2. Dept. Familiarization Programme for 1st Sem. B.Tech. Students

Dept. of Mechanical & Industrial Engg. organized an "Department Familiarization Programme" for 1st year B. Tech. students belonging to Mechanical Engg. & Industrial Engg. streams on Friday, 21st July 2023. The total strength of around 220 students were divided into 4 batches and parallel lecture sessions were conducted for two batches and parallel visit to institute facilities were held for the remaining two batches in the morning between 9.30 to 12 noon. The same set of activities were swapped in the afternoon session between 2.30 to 5pm.

Following items were covered in the lecture session,

1. Dept. Introduction- Handled by HOD, **Dr. S.S. Sharma**.
2. Importance of Research in Undergraduate Education- Handled by **Dr. Raghuvir Pai B.** & **Dr. Vishwanath Managuli**.
3. Introduction to Different Streams of Mechanical & Industrial Engg.- Handled by a team of Senior Professors from the department.
4. Presentation of Videos of Dept. Alumni, ASME Manipal & IE(Mechanical) – by Student Club Representatives.



DEPARTMENT NEWS



**Dept. Introduction by
Dr. S. S. Sharma, HOD**



Importance of research by Dr. Raghuvir Pai B.



Address on Introduction to Different Streams of Mechanical & Industrial Engg.

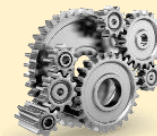


Visit to facilities.



Address by Alumni & Student Club Representatives

In the field visit students were taken around the institute and were shown the 5 academic blocks, Physics & Chemistry Labs, Graphics Lab, PSUC Lab, Central Workshop, Library, and other facilities of the institute. The students well appreciated the day long familiarization programme.



DEPARTMENT NEWS

3. International Conference on Recent Advances in Science and Engineering (RAiSE-2023)

Department of Mechanical & Industrial Engineering, MIT, Manipal organized an “International Conference on Recent Advances in Science and Engineering” (RAiSE-2023) jointly in association with School of Engineering and IT, MAHE Dubai, UAE in the Hybrid Mode (Offline & Online) at MAHE Dubai campus on 4th & 5th October, 2023. The conference was aimed at providing a common platform for academicians, industrialists, research scholars and students to exchange their expertise and knowledge and deepen their understanding of cutting-edge research. RAiSE-2023, united distinguished guests, esteemed delegates and leading researchers from around the globe to celebrate the spirit of knowledge, collaboration, and innovation.

RAiSE-2023 featured on a two-day hybrid mode comprised 14 offline sessions and 27 online sessions. Over 12 countries, including the UAE, Saudi Arabia, Canada, Iraq, Iran, the United Kingdom, India and more, were represented at the conference, bringing together participants from diverse backgrounds to share their knowledge and expertise. More than 125 institutions and colleges joined the event, highlighting the widespread enthusiasm for advancing scientific research and engineering innovation. With 260 delegates presenting online and 100 delegates presenting in person in Dubai, RAiSE-2023 truly became an international gathering. The conference acknowledged the quality contributions of researchers through two distinct awards: The Best Paper award and the Best Researcher award. These awards indicated excellence and innovation in the respective field.



Conference Sessions



DEPARTMENT NEWS

The conference was inaugurated on 4th October 2023 by virtual lighting of the lamp. **Dr. S.S. Sharma**, Head, Dept. of Mechanical & Industrial Engg., MIT, Manipal welcomed the gathering, **Prof. Nithesh Naik**, convener, presented the overview of conference, **Dr Sudhindra Shamanna**. Academic President, MAHE, Dubai, made the presidential remarks, chief guest **Mr. Abdelrahman Mohamed Al Ali** from Dubai Municipality, Government of Dubai, UAE, released the souvenir of the conference and **Prof. Suhas Kowshik**, co-convener proposed the vote of thanks. The valedictory ceremony and awards function was held on 5th October 2023. **Dr. Rajiv Selvam**, convener, School of Engineering & IT, MAHE, Dubai, welcomed the gathering, **Dr Pavan Hiremath**, convenor, presented the summary of the conference, **Dr S K Pandey**, Chairperson (SoE-IT), MAHE, Dubai, UAE, delivered the valedictory address and **Prof Suhas Kowshik**, co-convener proposed the vote of thanks. The Best Paper and the Best Researcher awards were presented during the ceremony.

RAiSE-2023 witnessed four keynote addresses by distinguished speakers who are internationally recognized for their contributions in their respective fields. They were **Dr. Jayant M Deshpande**, Founder and Managing Director, Conscious Business Consultants, UAE, **Prof. Dr. Subha A/P Bhassu**, Faculty of Science, University Malaya, Malaysia, **Mr. Girin Pillai**, Product Manager, Intel Corporation, India and **Mr. Amit Vyas**, Kalpar Castors, Kalpar Engineers Pvt. Ltd., India. These keynote speakers enriched the conference with insights spanning conscious business practices, diverse scientific disciplines, and technology innovation, setting the stage for insightful discussions and visionary thinking.

The conference's publication partnership with eight reputable Scopus Indexed Journals played a pivotal role in disseminating groundbreaking research to the global audience. The publication partners were Engineering Proceedings – MDPI (SCOPUS), ES Materials & Manufacturing (SCOPUS), Engineered Science (SCOPUS), ES Energy & Environment (SCOPUS), ES Food and Agroforestry (SCOPUS), Journal of Computers, Mechanical and Management (G-Scholar), Journal of Composites Science (ESCI - WoS & SCOPUS) and Technologies (ESCI - WoS & SCOPUS). These partnerships emphasized the significance of RAiSE-2023 as a platform for advancing knowledge and sharing research findings. RAiSE-2023 concluded leaving a significant impact on the scientific and engineering community.

4. Deakin University Professor Visit to the Dept. of MIE

Prof. Dr. Michael Pereira, Associate Professor, Dept. of Mechanical Engg, Deakin University, Australia, visited the Dept. of Mechanical & Industrial Engineering, MIT, Manipal and interacted with the pre final year students on 12th October 2023. The interactive session was organized as part of the MOU, MAHE has with Deakin University, Australia.

Dr Madhwesh N. gave an overview of the interactive session and welcomed the gathering. **Dr. Michael Pereira** conducted the masterclass on the topic "Developing critical engineering practice skills to facilitate more employability". He also briefed the students about the opportunities available for them at Deakin University for pursuing post-graduation. Students were given an activity to build a tallest tower to sustain the weight of a tennis ball at the top using limited resources (20 A4 sheets, tape & a tennis ball were given to the groups). Through this activity, he stressed the necessity of skill-based education in engineering.

Students actively participated in the activity. The team comprising of **Mr. Gujjati Sathwik**, **Mr. Sanjith M Lakkol**, **Mr. Keerthi Bharadwaj Y S**, **Mr. G Vinhu Prawin**, **Mr. Mayas Raj** and **Mr. Arjun Pramod Nair** built the tallest structure and won the prize.



DEPARTMENT NEWS



Interaction with Deakin university professor


Mr. Kirit Ajay Poonia, Senior Student Advisor, Partnership Engagement (South Asia), Deakin University, **Dr. Anupama R. Hiremath** of MIT Manipal were present during the session. Around 75 students participated in the event.

5. M.Tech.- Thermal Sciences & Energy Systems Alumni Talk Series


As part of the decennial celebration of M.Tech. Thermal Sciences & Energy Systems programme, the Dept. of Mechanical & Industrial Engg. organized a series of its Alumni Talks on a fortnightly basis to the present students and faculty members from August to October 2023. The talks were intended to sensitize the M Tech (TSES) students about the challenges faced and career opportunities available in the Thermal Sciences domain.

Alumni from both corporate sectors and research organizations joined the program actively and highlighted the set of skills desired to get ready in order to be on par with industry standards. The talks were coordinated by **Dr. Arunachala U. Chandavar**, Coordinator of M.Tech. (TSES) programme and other faculty members associated with the M.Tech. programme.

M.TECH
(THERMAL SCIENCES & ENERGY SYSTEMS)


CELEBRATING

2013 - 2023

Alumni Talk Series – 2023




Mr. PRINCETON LOBO
 Senior Engineer,
 Trane Commercial HVAC,
 Clarksville, TN, US
 2013 – 2015 Batch


Date: August 12, 2023
 Time: 2.30 pm
 Venue: Department Seminar Hall




Mr. VINEETH POULOSE
 Tech lead,
 Ingersoll Rand,
 Bengaluru
 2013 – 2015 Batch


Cordial welcome to all

M.TECH
(THERMAL SCIENCES & ENERGY SYSTEMS)


CELEBRATING

2013 - 2023

Alumni Talk Series – 2023

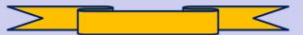


Mr. PRAFUL MATHAD
 Lead Engineer,
 Wabtec Corporation
 Bangalore
 2014 – 2016 Batch

Date: August 26, 2023
 Time: 2.30 pm
 Venue: Department Seminar Hall



Mr. VARUN K.
 Research Scholar,
 MIT,
 Manipal
 2018 – 2020 Batch



Cordial welcome to all

DEPARTMENT NEWS

M.TECH
(THERMAL SCIENCES & ENERGY SYSTEMS)


CELEBRATING
10
YEARS
2013 - 2023

Alumni Talk Series – 2023



Dr. ELTON D N
Research and Product
Development Engineer,
Deepchill Technologies Inc.,
Canada
2015 – 2017 Batch

Date: September 09, 2023
Time: 2.30 pm
Meeting link:
<https://tinyurl.com/h6bxbdsm>



Mr. MANJUNATH L N
Research Scholar,
IIT, Bombay
2018 – 2020 Batch

Cordial welcome to all

M.TECH
(THERMAL SCIENCES & ENERGY SYSTEMS)

CELEBRATING
10
YEARS
2013 - 2023

Alumni Talk Series – 2023



Mr. Sagar Sahoo
Senior Manager,
TATA.ev
Pune
2017 – 2019 Batch

Date: September 23, 2023
Time: 2.30 pm
Meeting link:
<https://tinyurl.com/56rmy783>



Mr. Narayan Shenoy
Simulation Analyst,
Volvo Group India Private
Limited, Bengaluru
2017 – 2019 Batch

Cordial welcome to all

M.TECH
(THERMAL SCIENCES & ENERGY SYSTEMS)

CELEBRATING
10
YEARS
2013 - 2023

Alumni Talk Series – 2023



Mr. Sagar Sahoo
Senior Manager,
TATA.ev
Pune
2017 – 2019 Batch

Date: October 14, 2023
Time: 2.30 pm
Meeting link:
<https://tinyurl.com/4htbcuev>




Mr. Chandan D
Graduate Trainee Engineer,
Rexroth Bosch Group
Bengaluru
2019 – 2021 Batch

Cordial welcome to all

M.TECH
(THERMAL SCIENCES & ENERGY SYSTEMS)

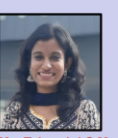
CELEBRATING
10
YEARS
2013 - 2023

Alumni Talk Series – 2023



Mr. Joewin Joy
Aerothermal Engineer,
AIRBUS India
Bengaluru
2014 – 2016 Batch

Date: October 28, 2023
Time: 2.30 pm
Meeting link:
<https://tinyurl.com/mpvpnfcm>



Ms. Tejaswini C M
Refrigerant Hardware
Engineer,
Volvo Group India
Pvt. Ltd., Bengaluru
2020 – 2022 Batch

Cordial welcome to all

6. Workshop on Computational Methods for Solving Engineering Problems (CMSEP-2023)

Dept. of Mechanical & Industrial Engg., Dept. of Mathematics, and Dept. of Aeronautical and Automobile Engg., jointly organized a 2-day workshop on “Computational Methods for Solving Engineering Problems” (CMSEP-2023) on 3rd & 4th November 2023. The workshop was aimed at equipping engineering professionals, researchers, and students with the latest tools and techniques in computational methods. A total of 68 participants from various parts of India actively participated in the workshop. Through interactive sessions, practical demonstrations and expert-led sessions, participants gained a valuable insight into numerical simulations, finite element analysis and computational methodologies. The workshop presented a unique opportunity for participants to enhance their problem-solving abilities, foster interdisciplinary collaboration and stay updated with the rapidly evolving landscape of engineering solutions driven by computation.

The inaugural ceremony of the workshop was held on 3rd November at KEF Auditorium, MIT, Manipal. The chief guest **Dr. Anirudh Sanyal**, Department of Chemical engineering, NIT, Calicut along with director- MIT, **Cdr. Dr. Anil Rana**, heads of the three departments, **Dr. S S Sharma**, **Dr. Kuncham Shyam Prasad**, and **Dr. Dayananda K Pai**, convenor **Dr. Nagaraj N Katagi**, co-convenors **Dr. Shah Mohammed Abdul Khader** and **Dr. Manjunatha Gudekote**, Organizing Secretary **Dr. Ashwini Bhat** graced the occasion. **Dr. S.S. Sharma** welcomed the gathering and **Dr. Nagaraj N Katagi** gave an overview of the workshop. In his address, Chief Guest, **Dr. Anirudh Sanyal** emphasized the significance of latest tools and techniques in computational methods for solving engineering problems. **Cdr. Dr. Anil Rana**, delivered the presidential address and highlighted the opportunity and support available at MIT Manipal for carrying out multidisciplinary research work. **Dr. Shah Mohammed Abdul Khader** proposed the formal vote of thanks.



DEPARTMENT NEWS



Inaugural Ceremony



Valedictory Ceremony

Apart from regular sessions in the computational area, CMSEP-2023 witnessed three keynote addresses from eminent speakers in their respective domains. **Dr. Tanmay Basak**, Department of Chemical Engineering, IIT, Madras, delivered a lecture on Finite Element Method for Solving Engineering Problems, **Dr. N Yagnesh Sharma**, Former Professor, Department of Mechanical & Industrial Engineering, MIT, Manipal, addressed on Solving Partial Differential Equations using Finite Volume Methodology and **Dr. Anirudh Sanyal**, Department of Chemical Engineering, NIT Calicut, discussed Basics of Computational Heat and Fluid Flow using Finite Difference Methodology-from Model Development to Iterative Solutions. These keynote addresses enriched the participants with a deeper understanding of various computational techniques and their applications in engineering problem solving. Hands-on sessions were arranged to equip the participants with practical skills in using software tools for simulations and analyses, to tackle complex engineering problems across mechanical, mathematical, electrical, and other disciplines.

The valedictory ceremony of the workshop was held on 4th November 2024. **Dr. Dayanand K. Pai**, Head, Dept of Aeronautical & Automobile Engg. welcomed the gathering. **Dr. Manjunatha Gudekote**, Co-convener of the workshop presented the summary of the workshop. **Dr. Ashok Rao**, Associate Director, Research & Consultancy, MIT was the Chief Guest and **Dr. N. Yagnesh Sharma**, former Professor, Department of Mechanical & Industrial Engineering, MIT, Manipal was the Guest of Honour. Their address was followed by a feedback session from the participants. The workshop concluded with a formal vote of thanks by **Dr. Shah Mohammed Abdul Khader**, Co-convener, CMSEP-2023. Overall, the workshop on Computational Methods for Solving Engineering Problems was a successful one, providing participants with valuable insights and skills to apply computational methods effectively in engineering scenarios.

7. IIC Activity conducted by the Dept. Mechanical and Industrial Engineering

A session on “Innovation, Entrepreneurship & Start-ups” with an aim to provide exposure to the innovation and entrepreneurship ecosystem of MAHE for PG students was organised at MIT, Manipal on 3rd November 2023. The program organized by the Institution’s Innovation Council (IIC), focused on exposing postgraduate students from the Dept. of Mechanical and Industrial Engineering to the resources available for innovation and start-ups. **Dr. Vishwanath Managuli**, the Program Coordinator and IIC Coordinator at MIT led the initiative with the support of **Dr. Sucheta Kolekar**, IIC Institute Coordinator, who discussed the array of support schemes available to MAHE students.

DEPARTMENT NEWS

The event featured insights from **Dr. Y. Shrihari Upadhyaya**, former CEO, Manipal University Technology Business Incubator (MUTBI), who narrated the success stories of postgraduate and PhD students. The session included a demonstration of Blackfrog Technologies, an incubated company at MUTBI, founded by MIT Manipal students, showcasing their innovative product, Emvólio. The program highlighted recent developments and government policies fostering innovation and entrepreneurship, facilities available at MAHE and the funding ecosystem offered by the Government of India for empowering students with knowledge and skills to embark on entrepreneurial journeys. A total of 26 students participated in the programme.



IIC Sessions

One more event was conducted on 11th November 2023 by IIC for students from the Dept. of Mechanical and Industrial Engineering and other departments from the Mechanical stream to empower their entrepreneurial journey. The event focused on imparting a comprehensive coverage of the qualities essential for success in entrepreneurship and emphasized the significance of team building. The session explored schemes like Nidhi-EIR and Nidhi-Prayas, as a means of financial support. **Dr. Y. Shrihari Upadhyaya** provided an overview of bio-incubators across India and explained how such incubators could play a pivotal role in helping the start-ups to succeed. He also imparted valuable knowledge and guidance for their future endeavours in the entrepreneurial landscape.

8. 4th International Conference on Maintenance and Intelligent Asset Management (ICMIAM-2023)

The 4th International Conference on Maintenance and Intelligent Asset Management (ICMIAM-2023) was jointly organized by the Department of Mechanical and Industrial Engineering, Manipal Institute of Technology, MAHE, Manipal, Federation University, Australia and Asset Management Council, Australia from the 6th to 8th December 2023 at the 153 year old School of Mines, Ballarat campus of Federation University, Australia. The conference inauguration was held on the 6th December in the presence of **Dr Sushil Kumar**, Consul General of India in Melbourne, **Mr. Toby Horstead**, National Chair, Asset Management Council, Australia, **Prof. Iven Mareels**, Executive Dean, Federation University, **Prof. Syed Islam**, DVC, Federation University, Assoc **Prof. Gopinath Chattopadhyay**, Federation University and Conference Chair, **Dr. Raghuvir Pai**, President Asset Management Society India and Professor at MIT Manipal and **Ms. Samantha McIntosh**, Councillor, Ballarat City Council.

The conference was supported by City Council Ballarat, IEEE (Victoria section), Lulea Technological University, Sweden, University of Huddersfield, UK, University of Johannesburg, South Africa, Chitkara University, India, and Asset Management Society India. The conference sponsors are Energy Australia, Cargill Australia, Voltex, Power Engineers, Intertech and Texas A and M University. A number of keynote addresses on various aspects of asset management and tribology were presented during the conference by the distinguished experts.



DEPARTMENT NEWS



ICMIAM-2023

70 technical papers and keynote papers were presented during the conference in 10 parallel sessions on the various areas of Asset Management, Asset Life Cycle Management, Water Audit & Analysis, Tribology & Maintenance and Data Science. The delegates came from India, Australia, New Zealand, UK, Spain, Mexico, Hong Kong, South Africa, Papua New Guinea, and USA. The papers and posters have been selected based on a review process that was established in the previous conferences. An important feature of the conference was the blessings by Revered **Swamiji, Suhitananda**, Vice President, Shri Ramakrishna Mission, Belur Math, Howrah.

9. PG Alumni Reunion of the Dept. of Mechanical and Industrial Engineering

Department of Mechanical & Industrial Engineering, MIT, Manipal organized the first ever reunion of the Post Graduate Alumni belonging to the department on Friday, 15th December 2023. The objective of the reunion was to ensure that the alumni remain connected with their parent department, to involve them in curriculum development, collaborative research, and various activities of the department in order to bridge the gap between industry and academia.

The formal stage function commenced with an invocation by **Prof. Gowrav Shenoy**, followed by welcome address by **Dr. S.S. Sharma**, Head, Dept. of Mechanical & Industrial Engg. **Dr. Raghuvir Pai B.**, Chairman of the post graduate programs of the department presented an overview of all the post graduate programs run by the department and highlighted the need for organizing the PG Alumni Meet. **Mr. Abhishek Nayak**, an alumnus from the 2019 to 2021 M.Tech. Manufacturing Engg. programme, presently serving as Senior Executive & Business Analyst at EXL Service, Bengaluru and **Ms. Poojitha K**, an alumnus from the 2018 to 2020 M.Tech. Thermal Sciences & Energy Systems programme, presently serving as System Design & Analysis Engineer at Boeing India Pvt. Ltd., Bengaluru gave their feedback and shared their experiences.

The chief guest of the day was **Shri Vishwanath Nayak**, Principal Engineer at Wipro- GE Healthcare Pvt. Ltd. Bengaluru, who not only pursued B.Tech. in Mechanical Engg. but also, M.Tech. in CAMDA. from the Dept. of Mechanical & Industrial Engg. at MIT, Manipal. **Dr. M. Vijaya Kini**, Associate Director, Alumni Relations, MIT introduced the chief guest to the gathering. In his address **Shri Vishwanath Nayak**, thanked the department for shaping his career and highlighted the transformation of Mechanical Engg. domain in the present day context and promised to strengthen the MOU which GE Healthcare has with MIT.



DEPARTMENT NEWS



PG Alumni Reunion

Dr. Vijay G. S., coordinator for M.Tech. CAAD programme introduced the guest of honor, **Dr. P. G. Kini**, Registrar, MAHE and **Dr. Sathish Rao U**, coordinator for M.Tech. Manufacturing Engineering programme introduced the presiding officer **Dr. Somashekara Bhat**, Joint Director, MIT to the gathering. In their address both Registrar and Joint Director highlighted the various opportunities available at MAHE and MIT for the alumni to remain connected and contribute to the growth of their alma mater.

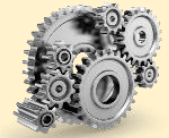
Prof. K. Jayavant Kamath, senior most visiting professor of the department presented the memento to the chief guest and **Dr. Arunachala U Chandavar**, coordinator for M.Tech. TSES programme proposed the formal vote of thanks. **Prof. Augustine Barboza** was the master of ceremonies for the programme. The formal stage program was followed by a centralized interaction session conducted by **Dr. Raghuvir Pai B.** & **Dr. S.S. Sharma**. Thereafter streamwise interactive sessions were held for the respective alumni of the three PG programs, in separate venues and the same were conducted by the respective program coordinators. Lunch was hosted to the alumni at Food Court 1 and a campus Tour was arranged in the afternoon. The day long programme was well appreciated by the alumni.

APPRECIATION OF SERVICE



Dr. Krishna Murthy
(30/07/2008 – 31/07/2023)

Dr. Krishna Murthy, Additional Professor, retired on 31st July 2023 after serving the department for 15 years. He is a doctorate in IC Engine Combustion from Visweswaraya Technological University, Belagavi. His research interests are in the areas of Alternative Fuels, Refrigeration and Air Conditioning, Energy Storage, and Engine Combustion. He has published several research articles in prestigious journals and national & international conferences. At MIT he has served as the Faculty Advisor for IE Mechanical Chapter and as a Faculty Advisor for student project group "Team Manipal Racing" (TMR) in the year 2012-13. As Faculty Advisor for TMR he has successfully guided and accompanied the students for the international event 'SAE Baja 2012' held in Wisconsin, USA. He was also the first faculty advisor for the student project "Team Karting Manipal" (TKM). Prior to joining MIT, Manipal he has served as a teaching faculty at Arba Minch University, Federal Republic of Ethiopia, under United Nations Development Program (UNDP). The department is grateful to Dr. Krishna Murthy for his contributions and wishes him a happy retired life.



Mr. Suresh Poojary, General Duty Worker II retired on 31st July 2023 after serving the department for more than 16 years. Prior to joining the Dept. of Mechanical & Industrial Engg., he has served at KMC Hospital for more than 17 years and at Dept. of Civil Engg., MIT, Manipal for about a year. He has contributed a lot to the department and has been a sincere and hardworking support staff. His passion for his work and his dedication to the department have been an inspiration to many. The department is grateful to him for his contributions and wishes him a happy retired life.



Mr. Suresh Poojary
(01/07/1989 – 31/07/2023)



Dr. Santosh Kumar Senapati
(26/07/2022 – 20/09/2023)

Dr. Santosh Kumar Senapati, Assistant Professor, resigned in September 2023 after serving the department for more than a year. He is a doctorate in the area of Computational Two-Phase Flow from Indian Institute of Technology, Kharagpur. His research interests are in the areas of Computational Multi-Phase Flow & Heat Transfer, Computational Natural Convection, Forced Convection, Mixed Convection, and Conjugate Heat Transfer. He was actively involved in managing several activities of the department. The department is grateful to Dr. Santosh Kumar Senapati for his contributions and wishes him all the best in his future endeavours.

Dr. Ritesh Ramakrishna Bhat Assistant Professor (Senior Scale) resigned in December 2023 after serving the department for more than 12 years. He is a doctorate in the area of Composites from Manipal Academy of Higher Education. During his stint at MAHE, he not only served as a faculty member at MIT, Manipal but was also deputed to MAHE's campuses at Malaysia, Dubai, and Bengaluru. He was an ardent OBE expert and not only led the department during NBA experts accreditation visit for the Industrial and Production Engineering program but was also instrumental in securing the accreditation for science and technology programs at Manipal International University, Malaysia.



Dr Ritesh Ramakrishna Bhat
(02/08/2011 – 09/12/2023)

To his credit he also has conducted several OBE workshops for the benefit of faculty members. Dr. Bhat was the lead for developing the curriculum for Industrial Engineering program which was offered from the year 2022. He was also instrumental in securing the Intel Unnati CoE to the Department of Mechanical and Industrial Engineering.

As a researcher he has published several quality publications in reputed international journals and presented papers at several international conferences. The department is grateful to Dr. Ritesh Ramakrishna Bhat for his contributions and wishes him all the best in his future endeavours.

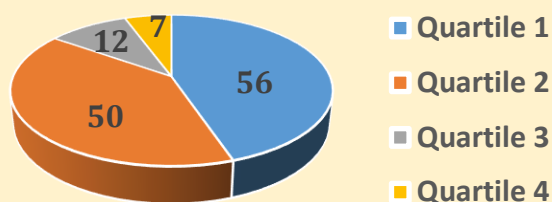


Dr. Pradeep Kumar Shetty
(08/08/2007 – 31/12/2023)

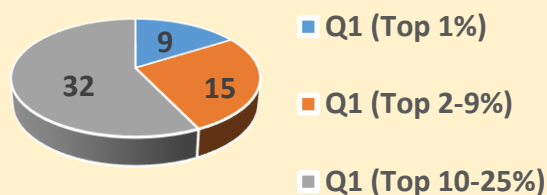
Dr. Pradeep Kumar Shetty, Additional Professor, retired on 31st December 2023 after serving the department for more than 16 years. He is a doctorate in the area of Management from Tumkur University. His research interests are in the areas of Servant Leadership, Ethical Climate, Organizational Citizenship, Supply Chain Management, Overall Equipment Efficiency, Industrial Productivity, Inventory Management, Organizational Behaviour and Solid Waste Management. He has several publications to his credit in reputed Scopus indexed journals and conferences. At MIT he has served as ISO Internal Auditor and as Hostel Warden. He is an Associate Member of Institute of Engineers (India) and a life member of Indian Society for Technical Education. Prior to joining MIT, Manipal he has served as a teaching faculty at Industrial Engineering Department, Bahirdar University, Federal Republic of Ethiopia, under United Nations Development Program (UNDP). The department is grateful to Dr. Pradeep Kumar Shetty for his contributions and wishes him a happy retired life.

FACULTY ACHIEVEMENTS

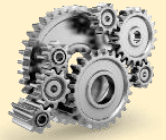
Journal Publications



Breakup of Q1 Journals



- **Publications:** Faculty members of the department have published 125 research papers in Web of Science/Scopus indexed journals and 05 papers have been presented in various international/national conferences held during July to December, 2023.
- **Patent Awarded:**
 - **Dr. Kirana Kumara P** has been awarded a patent for his invention titled ***"A Surgical Simulator for Training Surgeons in a Few Tasks Related to Minimally Invasive Surgery"*** (Patent No. 461944, Application No. 201641031739) by the Office of the Controller of Patents, The Patent Office, Government of India in October 2023.
 - **Dr. Sathya Shankara Sharma** and **Mr. Rajesh**, Research Scholar have been awarded a patent for their invention titled ***"Hybrid Heat Treatment Method for Age Hardenable Alloy Matrix Ferrous Metal Powder Reinforced Composites"*** (Patent No. 480368, Application No. 201841019026) by the Office of the Controller of Patents, The Patent Office, Government of India in December 2023.



- **Registration of Design:**

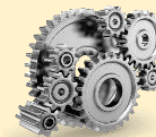
- **Dr. G Divya Deepak** and **Dr. Subraya Krishna Bhat** have received the Certificate of Registration of Design for the Design titled **"Electric Vehicle"** (Design No. 386814-001) from the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in November 2023.

- **Patents Published:**

- The patent filed by **Dr. Sathya Shankara Sharma, Dr. Gowri Shankar M C, Dr. Pavan Hiremath, Dr. Manjunath Shettar & Mr. Srinivas Doddapaneni**, Research Scholar, titled **"A Process for Hardening Surface of a Metal and System Thereof"** (Application No. 202241013855 A) has been published by the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in July 2023.
- The patent filed by **Dr. Sathya Shankara Sharma, Dr. Murthy B R N, Dr. Sandeep Nambiar S**, Ph. D. Graduate and **Mr. A A Prasanna**, Research Scholar, titled **"Alloy Composition and a Method of Synthesizing the Alloy Composition"** (Application No. 202241017141 A) has been published by the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in July 2023.
- The patent filed by **Dr. Sathya Shankara Sharma, Dr. Gowri Shankar M C, Dr. Jayashree P K, Dr. Anand Hegde** and **Ms. Bhagya Laxmi**, titled **"Method for Determining Mechanical Characteristics of a Metal Composition"** (Application No. 202241017556 A) has been published by the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in July, 2023.
- The patent filed by **Dr. Sathya Shankara Sharma, Dr. Raghavendra Prabhu P** and **Mr. Ramakrishna Vikas S**, titled **"Method Facilitating an Age Hardening Treatment of an Alloy"** (Application No. 202341002514 A) has been published by the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in July 2023.
- The patent filed by **Dr. Sathya Shankara Sharma, Dr. Shivaprakash Y M, Dr. Gurumurthy B M, Dr. Ananda Hegde** and **Mr. Sowrabh B S**, Research Scholar, titled **"A Method Providing Aging Treatment of Alloys"** (Application No. 202341018288 A) has been published by the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in July 2023.



- The patent filed by **Dr. Nitesh Kumar** along with **Mr. Vijay Kumar**, M.Tech. CAAD graduate from the class of 2021, titled ***"Weight-Based Fertilizer Feeder"*** (Application No. 202241016206) has been published by the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in September 2023.
- The patent filed by **Dr. Srinivas Shenoy H**, along with **Dr. Nagaraj Kamath**, **Prof. Ramnath Shenoy**, from Media Technology, **Dr. Balaji S**, from Dept. of Biotechnology and **Prasad B Iyer**, from SIES School of Packaging Mumbai, titled ***"A Composition Forming a Bio-Plastic Film and Method Thereof"*** (Application No. 202241067961) has been published by the Office of the Controller General of Patents, Designs & Trademarks, The Patent Office, Government of India in July, 2023.
- **Patents Filed:**
 - **Dr. Arunachala U Chandavar** along with **Dr. P. K. Vijayan** from Dept. of Chemical Engg., IIT, Jammu and **Mr. Varun K.**, research scholar have filed a patent for their invention titled ***"An Effective Indoor Solar Cooking System Amalgamated with a Thermosyphon Heat Transport Device"*** with the Indian Patent Office, Chennai in November 2023 (Application No. 202341079080).
 - **Dr. Ranjan Kumar Ghadai**, along with other inventors from different institutes across India have filed a patent for their invention titled ***"An Improved Aluminium Electrode for Electro Discharge Machining, and a Method for Manufacturing Thereof"*** with the Indian Patent Office, Chennai in (Application No. 202341082465).
 - **Mr. Krishna Kumar P**, along with **Mr. Kaustubh T S R**, B.Tech. Industrial Production Engg. graduate from the class of 2023 has filed a patent for the invention titled ***"Respiratory Mask"*** with the Indian Patent Office, Chennai in October 2023 (Application No. 202341068929).
 - **Dr. Vishwanath Managuli** has filed a patent for the invention titled ***"Biodegradable Self-Lock Tag Device and Method Thereof"*** with the Indian Patent Office, Chennai in August 2023 (Application No. 202341083490).
- **Grants Received:**
 - **Dr. Raghuvir Pai B.**, as Principal Investigator has received a research grant of **Rs 49,08,811** from DST for the proposal ***"Smart Hydrodynamic Fluid Film Journal Bearing For Machine Support Systems"*** under the Advanced Manufacturing Technologies program in November 2023. **Dr. Ganesha A.**, **Dr. Girish H.**, **Mr. Navaneeth Krishna Vernekar** from the Dept. of Mechanical and Industrial Engineering and **Dr. Shreesha C.**, from the Department of Instrumentation & Control Engineering, are the co investigators of the research proposal.



- **Dr. Raghuvir Pai B., Dr. Sathya Shankara Sharma, & Mr. Vishal Shenoy P** have received a research grant of **Rs. 42,00,000/-** from **Wipro GE Health Care Pvt. Ltd.**, Bengaluru in November 2023 as per MIT-GE University Partnership Agreement. During the term of the agreement WIPRO-GE Healthcare Bengaluru will provide collaborative projects to BTech and MTech students of MIT with funding. Technical discussions, mentorship, review, and approvals will be done jointly with the team from GE. Students undergoing projects in WIPRO-GE are eligible to appear for job interviews solely at the discretion of GE. As a part of this agreement GE has proposed to fund further research at MIT Manipal and support a research laboratory in 3-D printing.
- **Dr. Ranjan Kumar Ghadai** has received a research grant of **Rs. 2,91,000/-** from **Science and Engineering Research Board (SERB)**, New Delhi for the proposal **“Optimization of Sputtering Process Parameters for the Deposition of Diamond like Carbon Thin Film and its Alloys”**, in August 2023.
- **Seed Funding:**
 - **Dr. Vishwanath Managuli** along with other investigators from MAHE have received a seed funding of **Rs. 1 Lakh** for the project titled **“Development of Low Glycaemic Index and Gluten Free Noodles with Potential Health Benefits”** in September 2023.
 - **Dr. Umanath R Poojary** along with other investigators from MAHE have received a seed funding of **Rs. 1 Lakh** for the project titled **“Investigation of Magnetorheological Elastomers Based on Hybrid Matrices as An Alternative Matrix Material for Vibration Damping Application”** in September 2023.
- **Grants Applied:**
 - **09** faculty members of the department have applied for research grants worth **₹ 1,19,44,401/-** from DST, SERB, UGC and other research organizations during July-Dec 2023.
- **International Recognition:**
 - **Dr Shiva Kumar & Mr. Nithesh Naik** have been featured in the list of **top 2% Scientists/Researchers in the world as released by the Stanford University, USA**, and published by Elsevier. **Dr Shiva Kumar** has achieved this feat for the second consecutive year while **Mr. Nithesh Naik** has joined this elite league this year.
 - **Dr. Sathya Shankara Sharma** and **Dr. Manjunath Shettar** have been conferred with **“IOP Trusted Reviewer”** status by IOP Publishing, Bristol, United Kingdom in September 2023.

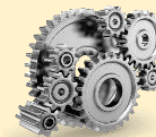


• **High Impact Factor/ Cite Score Publications:**

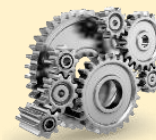
- **Dr. Dinesha P.**, along with **Mr. Deepak K. R.**, research scholar has co-authored a research paper titled "CO₂ uptake by activated hydrochar derived from orange peel (*Citrus reticulata*): Influence of carbonization temperature" in "Journal of Environmental Management", Vol. 342, 118350, Q1(Top 2-9) in September 2023 having an Impact Factor of **8.7** and a Cite Score of **13.4**.
- **Dr. Guruprasad T Shetty**, has published a research paper titled "Compressive behaviour of carbon fibres micropillars by in situ SEM nano compression" in "Composites Part A: Applied Science and Manufacturing", Vol. 173, 107699, Q1(Top 2-9) in October 2023 having an Impact Factor of **8.7** and a Cite Score of **15**.
- **Dr. Santosh Kumar Senapati**, has published a research paper titled "Performance improvement of a heat sink with triangular slotted and interrupted fins: A computational study" in "Applied Thermal Engineering", Vol. 230, 120783, Q1(Top 2-9) in July 2023 having a Cite Score of **11.8**.
- **Dr. Arunachala U Chandavar**, along with **Mr. Varun K**, research scholar has co-authored a research paper titled "Effect of hot leg length on the steady state performance of single-phase natural circulation-based tube in tube thermosyphon heat transport device with heat sink directly above the heat source" in "Applied Thermal Engineering", Vol. 230, 120695, Q1(Top 10-24) in July 2023 having a Cite Score of **11.8**.
- **Dr. Arunkumar H. S., Dr. Vasudeva Karanth K. & Dr. Madhwesh N.** along with **Mr. Hitesh N M & Mr. Avinash K Hegde.**, research scholars have co-authored a research paper titled "Exergy and economic analysis of a photovoltaic panel cooling with air bubble induced water jacket" in "Solar Energy", Vol. 266, 112161, Q1(Top 10-24) in November 2023 having a Cite Score of **13.1**.
- **Dr. Shiva Kumar**, has published a research paper titled "Experimental performance of a spray tower system for water desalination and indoor thermal comfort" in "Process Safety and Environmental Protection: Transactions of the Institution of Chemical Engineers, Part B", Vol. 180, 122-135, Q1(Top 2-9) in December 2023 having a Cite Score of **10.8**.
- **Mr. Nithesh Naik**, has published a research paper titled "Transforming Disease Diagnosis and Management: A Comprehensive Review of AI-Driven Urine Analysis in Clinical Medicine" in "Engineered Science", Vol. 26, 1009, Q1(Top 1) in December 2023 having a Cite Score of **15.9**.
- **Mr. Nithesh Naik**, has published a research paper titled "Advancements in Bladder Cancer Management: A Comprehensive Review of Artificial Intelligence and Machine Learning Applications" in "Engineered Science", Vol. 26, 1009, Q1(Top 1) in October 2023 having a Cite Score of **15.9**.



- **Dr. Muralishwara K., Dr. Gurumurthy B. M., Dr. Amar Murthy A., Dr. Jamaluddin Hindi & Mr. Nithesh Naik** have co-authored a research paper titled “Tribological Characterization of Precipitation Hardened 7075 Aluminium Alloy Composites Reinforced with Cast Iron Particle” in “ES Materials and Manufacturing”, Vol. 22, 1034, Q1(Top 2) in December 2023 having a Cite Score of **14.6**.
- **Dr. Sathya Shankara Sharma, Dr. Satish Rao U., Dr. Pavan Hiremath, Mr. Nithesh Naik and Mr. Suhas Kowshik C. S.** have co-authored a research paper titled “Mechanical Properties of Eggshell Filled Non-Post-Cured and Post-Cured GFRP Composites: A Comparative Study” in “ES Materials and Manufacturing”, Vol. 22, 1043, Q1(Top 2) in December 2023 having a Cite Score of **14.6**.
- **Mr. Nithesh Naik** has published a research paper titled “Deep Neural Network as a Tool to Classify and Identify the 316LSS And AZ31BMg Metal Surface Morphology: An Empirical Study” in “Engineered Science”, Vol. 26, 1064, Q1(Top 1) in December 2023 having a Cite Score of **15.9**.
- **Mr. Nithesh Naik** and **Mr. Krishna Kumar P.** have co-authored a research paper titled “Thermographic Evaluation of Dental Implants Insertion with Different Diameters and Bone Quality on the Primary Stability: A 3D Finite Element Study” in “Engineered Science”, Vol. 26, 1041, Q1 (Top 1) in December 2023 having a Cite Score of **15.9**.
- **Dr. Raghunandana K., Dr. Amar Murthy A. and Dr. Jamaluddin Hindi** have co-authored a research paper titled “Non-Linear Transient Analysis of Three Lobe Bearing Functioning through Pseudo-plastic Lubricant with Slip/No-slip Conditions” in “Engineered Science”, Vol. 26, 1055, Q1(Top 1) in December 2023 having a Cite Score of **15.9**.
- **Dr. Amar Murthy A., Dr. Gurumurthy B. M., Dr. Pavan Hiremath, Dr. Subash Acharya, Dr. Muralishwara K, Dr. Jamaluddin Hindi, and Mr. Nithesh Naik** have co-authored a research paper titled “Effect of Seawater Absorption on Mechanical and Flexural Properties of Pineapple Leaf Fiber Reinforced Epoxy Nanoclay Composites” in “ES Materials and Manufacturing”, Vol. 22, 1067, Q1(Top 2) in December 2023 having a Cite Score of **14.6**.
- **Dr. Shivamurthy B.** has published a research paper titled “Flexible Linear Low-density Polyethylene Laminated Aluminum and Nickel Foil Composite Tapes for Electromagnetic Interference Shielding” in “Engineered Science”, Vol. 21, 777, Q1(Top 1) in December 2023 having a Cite Score of **15.9**.
- **Mr. Nithesh Naik** has published a research paper titled “An Overview of Yeast-Based Toxicology: Unraveling Molecular Mechanisms, Advancing Drug Discovery, and Addressing Translational Complexities” in “Engineered Science”, Vol. 26, 1063, Q1(Top 1) in December 2023 having a Cite Score of **15.9**.



- **Mr. Nithesh Naik** has published a research paper titled “Drug Delivery Through Microneedles for Improved Permeability and Efficacy: Fabrication, Methodology and Applications” in “Engineered Science”, Vol. 26(1065), 1065, Q1(Top 1) in December 2023 having a Cite Score of **15.9**.
- **Mr. Nithesh Naik** has published a research paper titled “Protection of Magnesium AZ31B Alloy in A Hydrochloric Acid Medium Using Gelatin and Optimizing the Results Through Response Surface Methodology” in “ES Materials and Manufacturing”, Vol. 22, 1066, Q1(Top 2) in December 2023 having a Cite Score of **14.6**.
- **Mr. Nithesh Naik**, has published a research paper titled “Effective Approach to Regulate and Control the Degradation Rate of Metals: Bioinspired Coatings” in “ES Materials and Manufacturing”, Vol. 22, 1069, Q1(Top 2) in December 2023 having a Cite Score of **14.6**.
- **PhD Guidance:**
 - Doctoral degree was awarded to **Dr. Preeti Maurya**, full-time research scholar of the department for her doctoral thesis titled, “**Experimental Investigation and Optimization of Cryogenic Abrasive Water Jet Machining of Nitrile Butadiene Rubber**” by Manipal Academy of Higher Education, Manipal on 17th August 2023. The research work was carried out under the guidance of **Dr. Vijay G. S.**, and was co-guided by **Dr. Raghavendra Kamath C.**, Department of Mechanical and Industrial Engineering, MIT, Manipal.
 - Doctoral degree was awarded to **Dr. Y. Shirraj Rao**, full-time research scholar of the department for his doctoral thesis titled, “**Investigation on Mechanical Properties and Hole Quality in Drilling of Hybrid Carbon Fiber Composites**” by Manipal Academy of Higher Education, Manipal on 9th December 2023. The research work was carried out under the guidance of **Dr. Nanjangud Subbarao Mohan**, retired Professor, and was co-guided by **Dr. Nagaraja Shetty**, Department of Mechanical and Industrial Engineering, MIT, Manipal
- **FDP/Workshops Attended:**
 - **05** faculty members of the department have participated in **06** workshop/FDP's/Trainings/certificate courses held during July to December 2023.
- **Reviewers:**
 - **04** faculty members of the department have served as reviewers for **59** various international/national journals & conference articles during July to December 2023.



- **Book/Book Chapter Authoring:**

- **Dr. Kirana Kumara P.**, has authored a book titled ***“Boundary Element Method for Simulating Deformation of Liver”***, First Edition, ISBN: 978-93-6128-368-0, published in December 2023.
- **Dr. C. Raghavendra Kamath, Dr. Rithesh Ramakrishna Bhat** and **Mr. Nithesh Naik**, have authored an instructive textbook on comprehensive understanding of Data Analysis for the benefit of non-engineering students. The book titled ***“Data Analysis Theoretical Concepts for Non-IT Engineers,”*** ISBN: 979-8890675279 is published by Notion Press in August 2023.

- **Best Paper Award:**

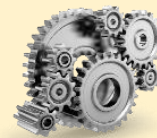
- **Dr. Shiva Kumar**, has received the Best Paper Award for his paper titled ***“Comparative Performance and Energy Analysis of the Various Configuration Organic Packings Used in Evaporative Cooling”*** presented at “International Conference on Recent Advances in Science and Engineering” (RAiSE-2023), jointly organized by the Dept. of Mechanical & Industrial Engineering, MIT, Manipal and School of Engineering and IT, MAHE Dubai, UAE at MAHE Dubai campus on 4th & 5th October 2023.
- **Dr. Vishwanath Managuli**, has received the Best Paper Award for his paper titled ***“Investigation of Machining Parameters and Surface Quality of Az-31 Magnesium Alloy Subjected to Spark Machining”*** presented at “International Conference on Recent Advances in Science and Engineering” (RAiSE-2023), jointly organized by the Dept. of Mechanical & Industrial Engineering, MIT, Manipal and School of Engineering and IT, MAHE Dubai, UAE at MAHE Dubai campus on 4th & 5th October 2023.

- **Conference Session Chair / Technical Committee Member:**

- **Dr. S. S. Sharma, Dr. Shiva Kumar, Dr. Dinesha P., Dr. Siddappa I. Bekinal** and **Dr. Vishwanath Managuli**, have chaired various sessions in the offline mode and **Dr Arunachala U. Chandavar, Dr Vijay G. S., Dr. Raviraj Shetty, Dr. Shivamurthy B., Dr. Raghavendra Kamath C., Dr. Murthy B. R. N.**, and **Dr Madhwesh N.** have chaired various sessions in the online mode for the “International Conference on Recent Advances in Science and Engineering” (RAiSE-2023) jointly organized by the Dept. of Mechanical & Industrial Engineering, MIT, Manipal and School of Engineering and IT, MAHE Dubai, UAE at MAHE Dubai campus on 4th & 5th October 2023.
- **Dr. Ranjan Kumar Ghadai**, has chaired a session at the “1st International Conference on Artificial Intelligence, Advanced Materials, & Mechatronics Systems” which was held at JECRC University, Jaipur, India on 3rd & 4th November 2023.



- **Dr. Manjunath Shettar**, has chaired a session at the “10th International Conference on Mechanical, Automotive and Materials Engineering (CMAME 2023), held in the online mode in Da Nang, Vietnam, from 20th to 22nd December 2023.
- **Dr. Manjunath Shettar**, has served as the Technical Committee Member for the “5th International Conference on Progress in Mechanical and Aerospace Engineering (PMAE 2023), held in Da Nang, Vietnam, from 20th to 22nd December 2023.
- **Resource Person/ Invited Talk:**
 - **Dr. Vishwanath Managuli & Dr. R C Shivamurthy**, have delivered technical lectures on the topic titled “**Material Characterization Tools and Applications in Research**” as part of Summer School Program 2023, conducted by MAHE-Student Research Forum on 25th July 2023.
 - **Dr. Vishwanath Managuli**, has delivered an expert lecture on “**Applications of Atomic Force Microscopy in Nanomechanical Testing of Biological Cells**” as a part of Short-Term Training Program (STTP) -2023 organized by the Department of Biomedical Engineering during 25th – 30th July 2023.
 - **Dr. Vishwanath Managuli**, has delivered an expert lecture and provided a demo on the “**Utilisation of Atomic Force Microscopy and Scanning Electron Microscopy Instruments on Various Research topics Associated with Virus and Bacterial Strains**” at Central Instrumentation Facility, MAHE, Manipal on 5th September 2023.
 - **Dr. Gururaj Bolar**, was the invited speaker for two-day National Symposium on “**Recent Advances in Processing Techniques for Improving the Surface Integrity of Aerospace - Defence Materials**” organized by NMAM Institute of Technology, Nitte (Deemed to be University), Karnataka on 7th October 2023.
 - **Dr. Vishwanath Managuli**, has Served as a Jury in evaluating the proposal ideas and pitch decks submitted by the participants at Manipal BioTech Hackathon 2023 held on 9th November 2023.
 - **Dr. Raghuvir Pai B.**, has delivered a talk on “**Coping with Academic Responsibilities: Teaching, Research and Administration**” on 17th November 2023 for the benefit of faculty members of MIT Manipal.
- **BOS Membership:**
 - **Dr. Sathya Shankara Sharma**, has served as an external committee member for the BOS/BOE committee and has attended BOS meetings at SJEC, Mangaluru held on 18th August 2023 and at MITE, Moodabidri held on 29th September 2023.



• **PhD Assessment:**

- **Dr. Sathya Shankara Sharma**, has served as external examiner for the PhD-comprehensive viva voce held at Srinivas University, Mukka on 5th September 2023.

PhD AWARDEES



- **Dr. Harish Kumar Kamath**, faculty, has successfully defended his doctoral thesis titled “Life Prediction of a PAD in an Externally Adjustable Fluid Film Bearing” for the award of PhD degree by Manipal Academy of Higher Education, Manipal on 1st September 2023. The research work was carried out under the guidance of **Dr. Satish B. Shenoy**, and was co-guided by **Dr. Chandrakant R. Kini**, Department of Aeronautical & Automobile Engineering, MIT, Manipal.

Dr. Nakul Sreedhar., faculty, has successfully defended his doctoral thesis titled “Experimental and Numerical Investigation on Thermal Performance of Natural Circulation Based Parabolic Trough Collector” for the award of PhD degree by Manipal Academy of Higher Education, Manipal on 11th December 2023. The research work was carried out under the guidance of **Dr. Arunachal U. Chandavar**, Department of Mechanical & Industrial Engineering, MIT, Manipal.



Dr. Karthik B. M., faculty, has successfully defended his Doctoral thesis titled “Aging Behaviour of STIR-Cast AL7075-Nickel Coated Duralumin Powder Metal Matrix Composites” for the award of PhD degree by Manipal Academy of Higher Education, Manipal on 26th December 2023. The research work was carried out under the guidance of **Dr. Sathya Shankara Sharma** and was co-guided by **Dr. Gowrishankar M. C.**, Department of Mechanical and Industrial Engineering, MIT, Manipal.



NEW FACES OF THE DEPARTMENT

Dr. Ranjan Kumar Ghadai, has joined the department as Associate Professor on 23rd August 2023. He did his Ph. D. in the area of thin film Coating titled "Synthesis and Characterization of Diamond like Carbon Coatings and its alloys" from Indian Institute of Engineering Science and Technology, Shibpur, India. He has completed his ME in Production Engineering from Indian Institute of Engineering Science and Technology, Shibpur, India. His research interest is in the areas of Thin Film Coating Synthesis and Characterization, Nanocomposites, Process Optimization and Multi-Criteria Decision Making. Prior to joining MIT Manipal, he has served as Assistant Professor in the department of Mechanical Engineering at Sikkim Manipal Institute of Technology, Sikkim for 9 years.



Dr. Prashik Malhari Ramteke, joined the Department of Mechanical Engineering as Assistant Professor on 21st July 2023. He did his Ph.D. in the area of structural analysis of FGMs titled "Nonlinear Numerical Modelling and Analysis of Porous Functionally Graded Curved Structures Under Thermomechanical Loading" from National Institute of Technology Rourkela, Odisha, India. He has completed his M. Tech. in Machine Design and Analysis from National Institute of Technology Rourkela, Odisha, India. His research interest is in the areas of structural analysis of porous FGMs, composite structures, and damaged structures. Prior to joining MIT Manipal, he has served as an Assistant Professor at the School of Engineering, Ajeenkya D. Y. Patil University, Pune.



ALUMNI ACHIEVEMENTS

Mr. Vickrant Mahajan an alumnus from the 1995 batch of B.E. Mechanical Engg. has been appointed as the General Manager of Daimler India (Bharat Benz - Bus division). He is associated with Daimler for the past 11 years. Prior to joining Bharat Benz, Vickrant has served in Mercedes Benz India Pvt. Ltd., TATA motors and L&T Ltd.

Ref: <https://www.linkedin.com/in/vickrant-mahajan-838a0017b/>





Mr. Kiran Naik an alumnus from the 2004 batch of B.E. Mechanical Engg. has been elevated as the Managing Director of Güdel India Pvt. Ltd. at Güdel Group. Prior to joining Güdel, he has served at Titan Automation Solutions.

Ref: <https://www.linkedin.com/in/kiran-naik-62029b1a/>

Mr. Gireesha Prabhu an alumnus from the 2004 batch of B.E. Industrial & Production Engg. has been elevated as the Chief Operating Officer at MG Group. He is associated with the MG group for the past 19 years. He is an MBA from Deakin University, Australia.

Ref: <https://www.linkedin.com/in/gireeshaprabhu/>



Mr. Sashikant Dash an alumnus from the 2009 batch of B.Tech. Mechanical Engg. has been appointment as the Head of Finance for Uber's North Asia operations (Japan, South Korea, Taiwan, and Hong Kong). Prior to this, he had held the position of Head of Finance for Mobility in Australia and New Zealand. He commenced his journey with Uber in 2019 as Sr. Associate, Strategic Finance for Mobility in South Asia and India. Prior to joining Uber, he has served at GE India.

Ref: <https://www.linkedin.com/in/sashikantdash/>

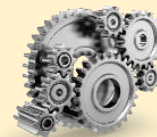
Mr. Ayushmaan Banerjee an alumnus from the 2016 batch of B. Tech. Industrial & Production Engg. has been appointed as the Chief Business Officer of Metakraft. Also, he is the founder of Rarix Labs which is building a sustainable blockchain economy with visionary products.

Ref: <https://www.linkedin.com/in/ayushmaan-banerjee/>



Mr. Prathamesh Parikh an alumnus from the 2022 batch of B.Tech. Mechanical Engg. has been honoured with Academic Excellence Award and Scholarship at Texas A&M University. Prior to taking up higher studies, he has done internships at Mahindra, Flipkart and Tesla.

Ref: <https://www.linkedin.com/in/prathameshparikh/>



STUDENT ACHIEVEMENTS

• **Publications:**

- **Mr. Madival, A. S.**, research scholar, has co-authored a research paper with **Dr. Raviraj Shetty** and **Dr. Deepak D** from Dept. of Mechatronics titled “Characterization of physical and mechanical properties of rice straw particles and Furcraea Foetida Fiber reinforced hybrid composite” published in “Journal of Natural Fibers”, 20(2), 2232544, [Q1].
- **Mr. Supreeth, D. K.**, research scholar, has co-authored a research paper with **Dr. Siddappa I Bekinal, Dr. R. C. Shivamurthy, Dr. Vijay G. S. & Dr. Mrityunjay Doddamani** from IIT Mandi, titled “Analysis of rotation magnetized direction permanent magnet thrust bearing for maximum characteristics using a complete generalized optimization procedure and a computational framework” published in “IEEE Access”, Vol. 11, pp. 84346 – 84359, [Q1].
- **Mr. Suhas K**, research scholar, has co-authored a research paper with **Dr. Murthy B.R.N**, titled “Hydrothermal synthesis and characterization of zirconia dioxide coated multi walled carbon nanotubes” published in “European Chemical Bulletin”, Vol 12(10), 12783-12793, [Q3].
- **Mr. Varun, K.**, research scholar, has co-authored a research paper with **Dr. Arunachala U. Chandavar & Dr. P. K Vijayan** from IIT Jammu, titled “Effect of hot leg length on the steady-state performance of single-phase natural circulation based tube-in-tube thermosyphon heat transport device with heat sink directly above the heat source” published in “Applied Thermal Engineering”, 230, 120695, [Q1].
- **Mr. Deepak K. R.**, research scholar, has co-authored a research paper with **Dr. Dinesha, P., Dr. S. Mohan** from NIT Goa & **Dr. R. Balasubramanian** from NUS Singapore, titled “CO₂ uptake by activated hydrochar derived from orange peel (Citrus reticulata): Influence of carbonization temperature” published in “Journal of Environmental Management”, 342, 118350, [Q1].
- **Mr. Uppar R.**, research scholar, has co-authored a research paper with **Dr. Dinesha P. & Dr. Shiva Kumar**, titled “A critical review on vegetable oil-based bio-lubricants: Preparation, characterization, and challenges” published in “Environment, Development and Sustainability”, 25(9), 9011-9046, [Q1].



- **Mr. Madival, A. S.**, research scholar, has co-authored a research paper with **Dr. Raviraj Shetty, Dr. Deepak D.** from Dept. of Mechatronics & **Dr. Maddasani S.** from Dept. of Chemistry, titled "Characterization and optimization of thermal properties of rice straw and Furcraea Foetida Fiber reinforced polymer composite for thermal insulation application" published in "Journal of Building Engineering", 78, 107723, [Q1].
- **Ms. Maurya P.**, research scholar, has co-authored a research paper with **Dr. Vijay G.S.** & **Dr. Raghavendra C Kamath.**, titled "Experimental investigation of suspension-type abrasive water jet machining of nitrile rubber for positive displacement motor applications" published in "International Journal of Lightweight Materials and Manufacture", 6(3), 367-378, [Q1].
- **Mr. Prabhu N. N.**, research scholar, has co-authored a research paper with **Dr. Shivamurthy B., Dr. Rajendra B. V.** from Dept. of Physics, **Dr. Krishna Murthy & Dr. Jagadeesh Chandra R.** from Dept. of E&C, **Dr. Anandhan S.**, from NITK Surathkal, **Dr. George G.**, from SCMS School of Engg. and **Dr. Sachin Kumar B.** from BMS College of Engineering, titled "Understanding the interplay of solution and process parameters on the physico-chemical properties of ZnO nanofibers synthesized by sol-gel electrospinning" published in "Materials Research Express", 10(8), 085001, [Q1].
- **Mr. Vignesh N.**, B.Tech. Mechanical Engg. graduate from the class of 2023, has co-authored a research paper with **Dr. Arunachala U. Chandavar** and **Mr. Varun K.**, research scholar, titled "Innovative conceptual approach in concentrated solar PV/thermal system using Fresnel lens as the concentrator" published in "Energy Sources, Part A: Recovery, Utilization, and Environmental Effects", 45(4), 10122-10143, [Q1].
- **Mr. Ahmad, S. M.**, research scholar, has co-authored a research paper with **Dr. S.S Sharma, Dr. Gowrishankar M.C.** and **Dr. Manjunath Shettar**, titled "Experimental investigation of mechanical properties and morphology of bamboo-glass fiber-nanoclay reinforced epoxy hybrid composites" published in "Cogent Engineering", 10(2), 2279209, [Q2].
- **Mr. Doddapaneni S.**, research scholar, has co-authored a research paper with **Dr. S.S Sharma, Dr. Gowri Shankar M. C., Dr. Rajesh Nayak, Dr. Nithesh K.** and **Dr. Karthik B. M.**, titled "Wear behaviour analysis of heat treated A356 composite with copper and copper-coated zinc as reinforcements" published in "Materials Research", 26, e20230225, [Q3].



- **Mr. Chandan, D.**, M.Tech (TSES) graduate from the class of 2022, has co-authored a research paper with **Mr. Varun, K**, research scholar and **Dr. Arunachala U. Chandavar**, titled “Experimental study on flow and stability characteristics of horizontal heater and cooler natural circulation loop equipped with air injection” published in “International Journal of Thermal Sciences”, 194, 108609, [Q1].
- **Mr. K. Prathik Kamath**, research scholar, has co-authored a research paper with **Dr. Vijay G. S.**, **Dr. Siddappa I. Bekinal** and **Dr. Mrityunjay Doddamani** from IIT Mandi titled “Power amplifiers and their feedback mechanisms for AMB—a comprehensive review” published in “IEEE Access”, 11, 132893 – 132915, [Q1].
- **Mr. Gagan Raju** and **Mr. Aashrayi Ranjan**, B.Tech Mechanical Engg. graduates from the class of 2023, have co-authored a research paper with **Dr. Vishwanath Managuli** and **Mr. Soumyabrata Banik** & **Mr. Ashmini Poddar**, students from Manipal School of Life Sciences, and **Dr. Nirmal Mazumder**, Dept. of Biophysics, Manipal School of Life Sciences titled “A commentary on the development and use of smartphone imaging devices” published in “Biophysical Reviews”, 15(6),1-13, [Q1].
- **Mr. Niranjan N Prabhu**, research scholar, has co-authored a research paper with **Dr. Shivamurthy B.** titled “An investigation on the acetone and ethanol vapor sensing behavior of sol-gel electrospun ZnO nanofibers using an indigenous setup” published in “ACS Omega”, 8, 49057-49066, [Q2].
- **Mr. Kelly Ann Dennis Furtado**, **Mr. Shubham Ganju**, **Mr. Fanil Harshad Birawat** and **Mr. Nagesh Shenoy**, B.Tech Mechanical Engg. graduates from the class of 2023 have co-authored a research paper with **Dr. Subash Acharya** titled “Kinematic analysis and structural design of suspension wishbone for a solar electric vehicle” published in “International Journal of Vehicle Systems Modelling and Testing”, 17(3-4), 288-310, [Q4].
- **Mr. Shourya Bhardwaj**, **Mr. Arnav Agarwal** and **Mr. Ishriit Tibdewal**, B.Tech Mechanical Engg. graduates from the class of 2023, have co-authored a research paper with **Dr. Gururaj Bolar** and **Dr. Vishwanath Managuli** titled “Investigation of machining parameters and surface quality of AZ31 magnesium alloy subjected to spark machining” published in “Engineering Proceedings”, 59(1), 135, 1-9, [Q4].



- **Mr. Madhusudhan Balkundhi**, research scholar, has co-authored a research paper with **Dr. Gururaj Bolar** and **Dr. Satish Shenoy B.** from the Dept. of Aeronautical & Automobile Engg. titled "Helical milling and drilling for hole-making in CARALL: experimental evaluation" published in "Engineering Proceedings", 59(69), 1-9, [Q4].
- **Mr. Amith K. V.**, M.Tech- Manufacturing Engg. student has co-authored a research paper with **Dr. Raghavendra C. Kamath** titled "Role of computational material science in improving the properties of piezoelectric smart materials: a review", published in "Engineering Proceedings", 59(1), 21, 1-10, [Q4].
- **Mr. Shantaram B. Nadkarni**, M.Tech- Computer Aided Analysis & Design student has co-authored a research paper with **Dr. Vijay G. S.** and **Dr. Raghavendra C. Kamath** titled "Comparative study of random forest and gradient boosting algorithms to predict airfoil self-noise" published in "Engineering Proceedings", 59(1), 24, 1-11, [Q4].
- **Mr. Suhas, K.**, research scholar, has co-authored a research paper with **Dr. Murthy B. R. N.**, titled "Preparation and characterization techniques of high-density polyethylene (HDPE) reinforced with multi-walled carbon nanotube (MWCNT) nano-composites—a review" published in "Journal of The Institution of Engineers (India): Series D", 1-15, [Q2].

B.TECH. (HONOURS) AWARDEE:

- **Mr. Tejass Girish Iyer** has successfully completed B.Tech.(Honours) in Mechanical Engg. in July, 2023. He belongs to the second batch of B.Tech.(Honours) programme instituted by MIT for the 2018 onwards admitted batches. The department congratulates him and wishes him best of luck in his future endeavours.

CLUB ACTIVITIES:

- **IE(MECHANICAL):**



At the annual tech fest of **MIT Manipal-Techtatva**, a category called **Mechanize**, organized by **IE Mechanical**, featured an innovative competition named Innoframe aimed at providing hands-on experience and knowledge to participants. Innoframe focused on imparting knowledge about the chassis of a car, allowing participants to explore the intricacies of vehicle frame design and construction.